

REMARKS

The examiner rejected claim 2 as obvious over Hollander in view of Michalski, as set forth in Section 14 of the office action. The examiner rejected claim 17 as obvious over Hollander in view of Wadman, as set forth in Section 18 of the office action.

The applicant has cancelled claims 2 and 17 and added their subject matter to claim 1. Amended claim 1 is clearly patentable in light of the references.

As the examiner correctly points out, Hollander discloses a device in which the emissivity value is adjustable. As disclosed in column 7, lines 12 through 35, for example, the primary object of Michalski is a device in which the emissivity is determined based on a comparison of direct surface contact temperature measurement and remote infrared-based temperature sensing. In fact, throughout the disclosure, Hollander goes to great lengths to point out the critical nature of determining the emissivity in order to correctly determine a surface temperature based on infrared temperature measurements. The criticality of knowledge of the actual emissivity of a body to the accurate determination of the body's temperature based on infrared, non-contact temperature sensing is supported by the Michalski reference, which describes on page 166 that emissivity corrections are added to the readings of a radiation pyrometer to determine the actual temperature of a body.

The examiner also points out that Michalski on pages 177 through 178 discloses a "rarely built mirror total radiation pyrometer" which in certain measurement modes has readings that are displayed with a preset value for the emissivity. The applicant notes that this reference was published fourteen years ago.

Devices with fixed emissivity are known. However, there is no suggestion or motivation on the face of the references to use a fixed emissivity in the Hollander device. Without such suggestion or motivation on the face of the references, the combination of the references as suggested by the examiner is clearly legally impermissible hindsight reconstruction. The Court of Appeals for the Federal Circuit, which establishes the law that the patent office is required to follow, has found in decision after decision (some of which are cited below) that it is impermissible under 35 U.S.C. 103 to combine features of references unless the combination is suggested by the references.

In the present case, it is abundantly clear that Hollander is primarily directed at a device that determines emissivity so that the temperature reading is accurate. The examiner states on page 9 of the office action that Michalski is evidence that ordinary workers in the field would recognize the benefit of using a fixed (preset) value for emissivity for the adjustable value of Hollander “in order to correct the indicated reading of the pyrometer after making the measurement.” The examiner also states on page 14 in relation to claims 17 and 27 that the Hollander adjustable emissivity control is not required to be adjusted in normal use and thus the Hollander circuitry is considered capable of being used by determining sensed temperature using a fixed emissivity (the examiner cites Wadman as supporting the fact that emissivity may have a constant value in certain circumstances, such as an oven).

However, it is clear that Hollander must, as part of its operation, determine the emissivity of the object being measured. It would be literally impossible for the Hollander device to determine emissivity if it was incapable of adjusting for emissivity.

It would also be impossible for Hollander to determine emissivity if it sensed temperature using a fixed emissivity value as set forth in the present independent claims 1 and 19.

In order to suggest either claims 1 or 19, it would be necessary to somehow conclude from Hollander that Hollander should be used without the ability to adjust the emissivity, and without the ability to determine non-contact measurement based in part on determined emissivity. Either of these changes to Hollander would be directly against the clear teachings of Hollander, which depend entirely on both emissivity measurement, and temperature calculation based on the measured emissivity. It is thus clearly improper under the law of obviousness to conclude that it would have been obvious to modify Hollander in light of either Michalski or Wadman.

The test of obviousness is not whether an improvement, or part of a claimed invention, is obvious, but whether the claimed invention, when viewed as a whole, would have been obvious to someone skilled in the art. Carl Schenck A.G. v. Nortron Corp., 713 F.2d 782, 785 (Fed. Cir. 1983). Failure to consider the claimed invention as a whole is an error of law. W.L. Gore & Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 1548 (Fed. Cir. 1983). The question is not whether the individual elements existed in the prior art, but whether their combination would have been obvious. *Id* at 1543

The Graham test is especially important, and the danger of entering into the “forbidden zone of hindsight” increases, in cases in which “the very ease with which the invention can be understood may prompt one to fall victim to the insidious effect of a hindsight syndrome.” Ruiz v. A.B. Chance, 57 U.S.P.Q.2d at 1166, quoting, In re Dembicza, 175 F.3d 994, 999, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999); Monarch Knitting Machinery Corp. v. Sulzer Morat GmbH, 45 U.S.P.Q.2d 1977, 1981 (Fed. Cir.

1998) (court must not presume solution, defining the problem in terms of its solution reveals improper hindsight).

"In determining the differences between the prior art and the claims, the question under 35 U.S.C. §103 is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious."

M.P.E.P. §2141.02, *citing, Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 218 U.S.P.Q. 871 (Fed. Cir. 1983); *Schenck v. Nortron Corp.*, 713 F.2d 782, 218 U.S.P.Q. 698 (Fed. Cir. 1983).

Secondary considerations of nonobviousness include commercial success, long felt but unresolved need, failure of others, copying, and unexpected results. Ruiz v. A.B. Chance, *citing, Graham v. John Deer Co.*, 383 U.S. 1, 17-18, 148 U.S.P.Q. 459, 467 (1966) and Miles Labs., Inc. v. Shandon, Inc., 997 F.2d 870, 877, 27 U.S.P.Q.2d 1123, 1228 (Fed. Cir. 1993).

[E]vidence of secondary considerations may often be the most probative and cogent evidence in the record. It may often establish that an invention appearing to have been obvious in light of the prior art was not. It is to be considered as part of all the evidence, not just when the decision maker remains in doubt after reviewing the art. Ruiz v. A.B. Chance Co., 57 U.S.P.Q.2d 1161, 1169 (Fed. Cir. 2000), quoting, Stratoflex, 713 F.2d at 1538, 218 U.S.P.Q. at 879) Such evidence 'may be sufficient to overcome a *prima facie* case of obviousness.' Ruiz v. A.B. Chance Co., 57 U.S.P.Q.2d at 1169, quoting, In re Beattie, 974 F.2d 1309, 1313, 24 U.S.P.Q.2d 1040, 1043 (Fed. Cir. 1992).

As in Litton Systems Inc. v. Honeywell, Inc., 39 U.S.P.Q.2d 1321, 1327 (Fed. Cir. 1996), here there is substantial evidence of secondary considerations of nonobviousness, including that the primary references teach away from the invention.

The combinations that the Examiner has suggested between Hollander and the other references are impermissible hindsight, and the suggestion to make the necessary

modifications is not found in the cited prior art. The very fact that none of the cited references suggest making the proposed modifications, particularly given the age of the references, indicates that the combinations are the result of legally improper hindsight reconstruction. Under a legally proper consideration of the references, the claims are allowable.

Each of the Examiner's rejections has been addressed. Accordingly, it is respectfully submitted that the application is in condition for allowance. Early and favorable action is requested.

If for any reason this Response is found to be incomplete, or if at any time it appears that a telephone conference with counsel would help advance prosecution, please telephone the undersigned in Worcester, Massachusetts at (508) 791-8500.

Respectfully submitted,



Brian M. Dingman
Reg. No. 32,729